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THE GENERIC NAMES OF THE NORTH
AMERICAN SKUNKS.

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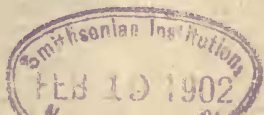
Dr. J. A. Allen, in a recent paper on 'The Generic Names of the *Mephitinae*',* has presented a careful study of the nomenclatural questions relating to the genera *Mephitis*, *Spilogale*, and *Chincha*, reaching the conclusion that the changes in the application of these names which I proposed in my recent revision of the genus *Chincha*† rest on a faulty basis.

It is of course very much to be regretted that a generic name should ever have to be changed, and the case of the North American skunks, where the name of one genus is transferred to another is especially deplorable. It was on this account that I not only exercised great care in the investigation of the question, but also, before suggesting so important a change, invoked the aid of several of our best mammalogists, including Dr. Allen.

The change, however, then appeared inevitable, and after a very careful reading of Dr. Allen's paper, and a thorough rehearsal of all the evidence bearing on the question, I am still compelled to hold the same view.

*Bull. American Museum Nat. Hist., XIV, pp. 325-334, Nov. 12, 1901.

†North American Fauna, No. 20, Aug. 31, 1901.



It seems wise, in view of the radical differences between Dr. Allen's position and my own, to go over the evidence again in greater detail than was possible or necessary in my former paper. In order to facilitate comparison of the two arguments, I shall adopt the order of presentation used by Dr. Allen, and at the close give a summary of my own views.

The Genus *Mephitis*.

The whole question of the application of the name *Mephitis* hinges on the identification of Cuvier's '*coneplate*'. If as Dr. Allen concludes, this is not one of the little spotted skunks, but the common two-striped skunk of the eastern United States, no further argument is required to support his contention, and the so-called 'restrictions' of Gray and Lichtenstein have no bearing on the question. For in that event the genus is not composite, but is composed of two congeneric species.

But Dr. Allen's position seems to be untenable. The '*coneplate*' of Cuvier, although doubtless the equivalent of Buffon's '*coneplate*,' is based primarily on *Viverra putorius* Linn., since Cuvier refers to Linnæus and to no other author; and *Viverra putorius* of Linnæus is admittedly based on Catesby's 'pol-cat' of Carolina, which he calls *Putorius americanus striatus*. In order to make the matter clear, I shall endeavor to show that Catesby's animal is referable to a species of *Spilogale*, and shall then trace the subsequent history of the species down to Cuvier's time.

The 'pol-cat' was described and figured by Catesby in his 'Natural History of Carolina,' published in 1731, this being the first account of any North American skunk. The description was prepared from his personal observation during a sojourn of several years in South Carolina and the adjacent portions of Georgia. He appears never to have visited Florida. Since it is important to show that he traveled in a region where *Spilogale* occurs, I will quote his brief itinerary, as follows:

'The inhabited parts of *Carolina* extend West from the Sea about 60 Miles, and almost the whole Length of the Coast, being a level, low Country. In these Parts I continued the first Year * * * *. I then went to the Upper uninhabited Parts of the Country, and continued at and about *Fort Moore*, a small Fortress on the Banks of the River *Savanna*,

which runs from thence a Course of 300 Miles down to the Sea, and is about the same Distance from its Source, in the Mountains. I was much delighted to see Nature differ in these Upper Parts, and to find here abundance of Things not to be seen in the Lower Parts of the Country; this encouraged me to take several Journeys with the *Indians* higher up the Rivers, towards the Mountains * * * *."

As Mr. Bangs has shown, *Spilogale* probably does not occur in the coast region of South Carolina or Georgia,* but that both the large and small skunks occupy the mountainous portions of North Carolina is well known. It is entirely probable, therefore, that they are both found on the upper courses of the Savannah River. It was doubtless during one of his excursions 'up the rivers towards the mountains' that Catesby saw the animal which served as the basis of his drawing. A copy of his plate is presented with this paper. His description of the 'Pol-Cat' is as follows:

"This in Shape is not unlike our common Polcat, except that the Nose of this is somewhat longer: The Colour of all I have seen is black and white, tho' not always alike marked; this had a List of white, extending from the hind-part of the Head, along the Ridge of the Back, to the Rump, with four others, two on each Side, running parallel with it."

Following this is an account of the characteristic habits of the skunk.

Although neither the figure nor the description furnishes an accurate portrayal of either of the two skunks inhabiting the region where he travelled, the reference of both plate and description to *Spilogale* seems unquestionable. The chief discrepancy lies in the continuity of the white stripes, and in the statement that there are *five* stripes, the median one being on the ridge of the back. The real animal shows *four* parallel stripes on the back (two on either side of the median line), broken on the hinder parts of the body into numerous irregular markings, while lower down on each side an additional stripe runs parallel to the others for a part of their length. (See plate.)

When we consider that Catesby's drawing was probably made from his recollection of an animal seen afield, perhaps at some distance, and probably in the dusk of twilight, the differences between the figure and the real animal become unimportant. It

*Proc. Boston Soc. Nat. Hist., XXVIII, p. 224, 1898.

must be remembered that it is not necessary to show that his figure is a correct representation of a *Spilogale*: the question is simply, could it have been based on anything else? Had he seen one of the large skunks, it is hardly conceivable that he would have represented an animal with *two divergent* stripes as having *five parallel* ones.

The large skunks of the highlands of Carolina are extremely variable in color, some being almost entirely white on the upper surface of the body and tail, others nearly all black; in no case, however, are there more than two white stripes. The little spotted skunks of the same region, though subject to slight variation, always have the four parallel white stripes. The accompanying plate is presented in order to bring out clearly the resemblance of Catesby's figure to the little spotted skunk and its dissimilarity to the two-striped skunk. The figures of the skins (made from photographs) represent the average color patterns of the two species occurring in the region in question.

In view of the foregoing evidence, there seems to be no reason for doubting that Catesby's Polecat was based entirely on the little spotted skunk occupying the highlands of western Carolina, viz. *Spilogale ringens* Merriam. If the Florida species should later be shown to range northward as far as South Carolina, Catesby's animal may then be properly referred to that form.

Since the existence of a species of *Spilogale* in the region where Catesby traveled became known to naturalists, no one, so far as I know, excepting Dr. Allen, has ever questioned the applicability of Catesby's species to some member of that genus.

Even if it be admitted that there is room for some difference of opinion as to the identification of Catesby's species, it is customary in such cases to adopt the decision of the first author who revises the group. The name *Mephitis putorius*, based on Catesby's species, was first used by Dr. Coues, who applied it in a broad sense to all the little spotted skunks of North America.* Some years later, the name was definitely fixed by Dr. Merriam to the Florida species.† Its use by these two authors would seem to be sufficient to establish the name on a firm basis. The only way in which it can now be overthrown is to

*Fur-bearing Animals, p. 239, 1877.

†North American Fauna, No. 4, p. 7, 1890.

show beyond question that it cannot possibly apply to a *Spilogale*, which has not been done.

Pursuing the later history of Catesby's species, we discover that his account influenced strongly every author who treated the North American skunks down to the time of Cuvier.

Kalm, during his travels in Pennsylvania and New Jersey, learned of the presence of skunks in that region, where we know *Spilogale* does not occur, but his account of them,* as Dr. Allen says, is drawn largely from Catesby, and scarcely at all from personal observation. Furthermore, he identifies his Polecat with Catesby's.

Linnæus, the next author to treat of the North American skunks, described, in the 10th edition of his *Systema Naturæ* (1758), under the name *Viverra putorius*, an animal having four white stripes. He cited Catesby and Kalm.

Buffon, in 1765, described the same animal under the name of '*le conepate*,' attributing to it five white stripes. His plate is evidently a copy of Catesby's (a point not specifically mentioned by Dr. Allen), and he quotes a long extract from Kalm, choosing his account, rather than Catesby's, probably because it is fuller.

Schreber, in 1776, under the Linnæan name *Viverra putorius*, reproduced Catesby's plate again, and quoted Linnæus, Catesby and Kalm.

Finally in 1798, Cuvier adopted Buffon's name '*le conepate*' for a five-striped skunk which he identified with *Viverra putorius* Linn., and renamed *Mustela putida*.†

It will be seen from this résumé that the basis of Cuvier's '*conepate*' is primarily Catesby's Polecat, which has been shown to be a species of *Spilogale*. The references to Kalm are purely secondary, and should be accorded little weight, in view of the certain fact that Linnæus, Buffon, and Cuvier all described a species having five (or four) white stripes, and obviously based on Catesby's figure. Not a single element of the two-striped skunk appears anywhere in this chain except in Kalm's account, where owing to the absence of *Spilogale* from the region in

*Travels, Vol. II, p. 378, Stockholm, 1756.

†The reason he excluded *Viverra zorrilla* from his group of *mouffettes* is because he considered it to be a weasel from the Cape of Good Hope, and not a skunk at all.

which he travelled, the reference to the large skunk is implied.

The second species in the original genus *Mephitis*, viz.: '*le chinche*,' *Viverra mephitis*, is admittedly one of the large North American skunks, the only question raised by Dr. Allen being the proper application of the specific name.

Hence, as stated in my previous paper, *Viverra mephitis* having been removed by Lesson in 1842 to form the genus *Chincha*, the remaining species, *V. putorius* (here shown to be applicable to the species now known as *Spilogale ringens*) becomes, by elimination, the type of the genus *Mephitis*.

The question of the type is not affected by the revisions of the genus by Gray (1837) and Lichtenstein (1838), for the reason that neither of the two groups composing the original genus was removed by them to another genus. Even on the assumption that Cuvier's first species (*V. putorius*) is not a *Spilogale*, neither Gray's revision nor Lichtenstein's is a 'restriction' or 'dismemberment' of the *original* genus (which according to this view contains but one group) but is simply a removal into new genera of species which had been associated with *Mephitis* by later authors.*

The Genus *Chincha*.

The applicability of the name *Chincha* to the large North American skunks is not questioned by Dr. Allen, except that he considers *Chincha* a synonym of *Mephitis*; but since he has opened the way for a fuller discussion of the evidence on this point, it may be well to refer to several facts which have come to my attention since the publication of my paper on the genus.

These facts relate to the basis of Lesson's type species, *Chincha americana*. A critical re-examination of the references cited under this name indicates that the last—that to F. Cuvier—is the most important, rather than the first—'*Viverra mephitis* Erxl.'—which, on account of its prominent position, I rather hastily assumed to be the one on which Lesson relied as the basis of his type. The importance of the reference to Cuvier is

*In this connection it may be well to call attention to a *lapsus pennæ* in Dr. Allen's paper, where on page 328, in the 6th and 7th lines from the top of the page, the words 'first' and 'second' should be interchanged.

shown by Lesson's note that Cuvier's plate is a 'good figure' of the species he is treating ('B. fig.'=*Bonne figure*), and by his assignment of 'Louisiana' as the type locality, that being the source of the specimen recorded by Cuvier. An examination of Cuvier's plate shows that it is indeed a 'good figure' of one of the North American two-striped skunks, and in the text we find the statement that the figure was based on a specimen which the elder Cuvier had in captivity, and which came from Louisiana.

In view of this certain evidence, it seems best to consider that *Chincha americana* Lesson, which is the type of the genus, was based largely on the animal described by F. Cuvier, which is referable to *Chincha mesomelas* (Licht.) This conclusion, of course, does not affect the validity of the name *Chincha*, but simply serves to fix with greater certainty the basis of the type.*

***Viverra mephitis* Schreber.**

Dr. Allen has made a very clear presentation of the facts bearing on the tenability of this name. His conclusion, however, that it should be referred to *Mephitis macroura* Licht., seems to be based on a misapprehension of the facts.

The members of the *macroura* group (Subgenus *Leucomitra*) as I pointed out in my previous paper, are usually either wholly white or wholly black on the back, and in any case *never* have the divided stripe of the United States species (subgenus *Chincha*). The tail, in the majority of specimens, equals or exceeds the head and body in length, and never falls below 85 per cent of the combined length of head and body. Buffon's figure (of which Schreber's is a copy) portrays an animal with two broad divergent stripes separated by a small area of black; the tail is said to be *half* as long as the head and body.

*In this connection, I may take occasion to publish a name which escaped me while preparing the list of specific names referable to the genus *Chincha*. (N. Am. Fauna, No. 20, p. 15). To that list should be added *Mephitis vulgaris* F. Cuvier, Hist. Nat. Mamm., VII, Table Gen. et. Method, p. 3, 1842, based on the plate and description of '*le Chinche*,' published in a previous volume of the same work (Hist. Nat. Mamm., III, livr. 28, 1821). Cuvier says in this connection: "This animal is the *Viverra mephitis* of the systematic catalogues; the name should be changed, since *Mephitis* has become the generic name."

It is evident, therefore, that the specimen on which the description was based came from some part of the United States or Canada, and not from Mexico. The figure can be exactly matched by specimens from the eastern States, and also by specimens of *estor* from Arizona. It could hardly be supposed to have come, however, from the latter region, and the most logical conclusion is that it was taken somewhere in the eastern part of the United States or Canada.

The amount of white on the back is excessive for the Canada skunk, so far as our present limited knowledge of the species indicates. The short tail, however, is strikingly diagnostic, for this is a character possessed by no other eastern species. In the absence of any definite knowledge of the origin of Buffon's specimen, it seems wise therefore to fix the name *mephitis* to the Canada skunk. If the name be rejected as unidentifiable, *mephitica* of Shaw would have to be rejected for the same reason, for Shaw's name has exactly the same basis as Schreber's, viz. Buffon's '*chinche*'. The name *mephitis*, although accredited to Linnæus, is not his name, for he wrote *memphitis*, a word of quite different meaning; furthermore, Schreber's description, as shown by Dr. Allen, is based on Buffon, rather than on Linnæus.

Summary.

1. The original genus *Mephitis* Cuvier, contained two species, the first of which (*Mustela putida*) is a little spotted skunk, the second (*Mustela mephitis*) a large two-striped skunk.

2. *Mustela putida* Cuvier, is based on *Viverra putorius* Linn., and therefore primarily on Catesby's *Putorius americanus striatus*, which is clearly referable to the little spotted skunk of the highlands of Carolina, i. e., *Spilogale ringens* Merr. Linnæus's reference to Kalm, since it is wholly secondary to the reference to Catesby, should have little weight.

3. Gray in naming *Conepatus*, and Lichtenstein in naming *Thiosmus*, did not restrict the genus *Mephitis*, but simply separated groups which had been associated with *Mephitis* by authors other than Cuvier.

4. When *Chincha* was proposed by Lesson, the original genus *Mephitis* had never been divided, nor had the type in any way been fixed. Hence his selection of the second group, rep-

